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ABSTRACT

This study was conducted to determine how to know what online students learned in an educational administration program and whether it was comparable to what students learned in traditional (on ground) classes. The focus was on the educational administration program at National University, California. Surveys of 21, 47, and 11 online students were completed to measure consistency of student attitude toward online learning in relation to traditional courses. Scores on a comprehensive exit examination were compared for on-ground (n=125) and online (n=11) students. Students were also asked to assess their own learning in both conditions. Nine online instructors completed a survey that gave their perspectives of the online courses and their effects on students. Results suggest a high degree of comparability in the quality and rigor of the online and on-ground educational administration courses. Online students were generally satisfied with the quality of instruction in their program, Students in both types of courses performed comparably academically. Online instructors were quite positive about the educational administration program. Overall, findings show that students enrolled in online courses, even if they have concerns, like the flexibility the course gives them and plan to take more courses in this form. (Contains 11 tables, 8 graphs, and 15 references.) (SLD)

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ASSESSMENT OF STUDENT LEARNING IN AN EDUCATIONAL ADMINISTRATION ONLINE PROGRAM

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A paper presented at the

American Education Research Association

AERA Annual Meeting 2002

New Orleans, Louisiana

by

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ASSESSMENT OF STUDENT LEARNING IN AN EDUCATIONAL ADMINISTRATION ONLINE PROGRAM

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Introduction

The traditional method of preparing students for a credential or certificate authorizing service as a school administrator has been through a sequence of on-ground classes. Students and professors meet in a standard face-to-face environment for the number of contact hours prescribed by the appropriate accrediting agency. Through external accreditation review, university assessments of student outcomes, and student reports of self-learning, it is generally accepted that student learning in these programs can be demonstrated and further validated by research.

Today, a number of educational administration students are pursuing their credential or certificates online. It is estimated that 2.2 million people will have taken an online college or university course by 2002 (*San Francisco Chronicle,* August 14, 2000). At National University, a university which primarily serves the working adult learner—whose average age is thirty-four—more and more students are preparing to become school administrators through online courses and programs. Last year (2000) twenty students completed all or part of their educational administration program online. This year (2001-2002) approximately seventy students are using the online option. The number fluctuates from course to course, but is fairly consistent throughout the program.

Colleges and universities throughout the world offer online programs. It is virtually impossible to find official data on the number of online college and university courses currently being offered. Attempts to determine numbers through Internet searching prove frustrating. A recent search using the Lycos search engine with the term "online university education" as the descriptor indicated that 1,467,325 articles on the topic were available. Clearly online instruction is no longer the domain of non-traditional universities with schools such as Harvard now offering an online MBA.

Indicative of this trend, eleven universities in the United States and Britain have joined together to create and sell online graduate courses, thus forming one of the more extensive international distance-learning partnership, (*Chronicle of Higher Education,* June 8, 2001). The network includes Pennsylvania State University, the University of California at San Diego, the University of Illinois at Urbana-Champaign, the University of Washington, and the University of Wisconsin at Madison. The British partners are the Universities of Bristol, Leeds, Manchester, Sheffield, Southampton, and York. The initial focus is on research collaborations.

Background: National University

National University is one of the pioneers in offering online instruction, having begun in 1996 by offering a Global Masters in Business Administration. Since then, it has offered degree and credential programs in eighteen different fields: BA—Global Studies, Business Administration, Criminal Justice, and Nursing: masters—Business Administration, Electronic Commerce, Forensic Science, Nursing, Instructional Technology, Educational Technology, Teaching, and Educational Administration; Credentials—Multiple Subject, Single Subject (CLAD and BCLAD), and Educational Administration; and Certificates—CLAD Multiple and Single Subject and Electronic Commerce. Additional programs will be offered online within the next year. Nearly ten percent of National University's 18,000 students complete all or part of their programs online.

The University of Southern California has been involved with online instruction since 1997. Its major program is the Master of Gerontology offered by the Leonard Davis School of Gerontology and the online journalism programs offered through the Annenburg Institute.

The focus of this paper and presentation, however, is on the educational administration program at National University where Hoban and Castle teach as full-time professors and Neu teaches as an adjunct professor while coordinating a Tier 2 (Professional--advanced credential) educational administration program at the University of Southern California.

Focus of This Study—Educational Administration Online at National University

The main reason students give for taking online educational administration courses is convenience and flexibility of time. Those students who participated in the first National University offering of the preliminary administrative services credential program in 2000 reported that observation and noted that the online courses were as rigorous and demanding as those they have taken in the more traditional format. This was confirmed in a preliminary study conducted by Hoban and Neu, "What We Know and What we Want to Know about Online Education" which was presented at the 2001 AERA Conference in Seattle.

Online course work, distance education, not only allegedly saves costs, but it also reaches a wider student audience and better addresses the needs of students. More importantly, it applies the tenets of modern learning pedagogy (Fitzpatrick, Robbie, 2001). Preliminary evidence from the Hoban and Neu study also indicated that this is the case for the National University program.

A study by L. Sherry, 1996, found that political and public interest in distance education is especially high in regions where the student population is widely distributed. Sherry also found that each region developed its own form of distance education in accordance with local resources, target audience, and the philosophy of the organizations that provide the instruction. Currently, the National University program has cohorts of students from

throughout California with several students residing in other "lower 48" states and in Mexico. The program also has two special cohorts of students enrolled in Alaska.

New developments in technology have removed some of the early disadvantages associated with distance education. In 1984, a long time ago in the history of distance education, Bates suggested that new technologies promise "a wider range of teaching functions and a higher quality of learning, lower costs, greater student control, more interaction and feedback for students" (223). Today that appears to be the case. And, the old issue of media vs. method will continue to be debated in relation to distance education. There is no doubt that distance education is different from other instructional approaches (Jeffries, retrieved 2002).

National University Online

National University has been preparing students in educational administration leading to the California Preliminary Administrative Services Certificate (Tier I) using a traditional, face-to-face on-ground format for twenty years. This certificate is required to be a principal as well as to seek other administrative positions in the State of California.

National University developed an online program leading to the Preliminary Administrative Services Certificate for the 2000-2001 academic year. The first courses in the program were taught that year. The experiences of several of the instructors were described in a paper, "Online Education—Notes From the Trenches—Purebred vs. Hybrid," presented at the XVIII International Council for Innovation in Higher Education (ICIE) conference held in Quebec City, in November, 2000. Twenty students have completed or are in the final stages of completing the program online and 70-80 students are currently enrolled in parallel online programs for the 2001-2002 academic year. Two groups of students, as noted above, reside in Alaska.

An initial formal assessment of the program was conducted and reported in a paper, "Adult Learners in 2001" that was presented at the ICIE conference held in Rome, Italy, in November, 2001. That assessment primarily focused on a second group of students' attitudes toward online learning and was compared to the information reported from the first survey presented by Hoban and Neu at the Seattle 2001 AERA meeting. Of particular interest were the student comments which, for the most part, gave a very strong endorsement to the online approach.

While the students responding to the first two surveys appeared to be quite satisfied with their online educational administration programs, it is still relatively early to reach any definitive conclusions about actual student learning in this environment. The content of on-ground and online classes is the same, as are textbooks, assignments, and readings. Replacing face-to-face discussions are online threaded discussions and, at program intervals, mandated face-to-face classes. Anecdotal evidence strongly suggests that online students have learned as much as non-online students. So, too, does student performance on program exit examinations and field-work portfolios. That evidence, however, is limited. As a consequence, the question which must be explored by online

educational administration instructors at National University and , at other universities, too, is, *"How do we know what the online students have learned and is it comparable to what students have learned in on-ground classes?"*

The Questions To Be Asked

To answer the central question posed in this paper—*How do we know what the online students have learned and is it comparable to what students have learned in on-ground classes?*—the following sub-questions are addressed in this study.

1. Is there a consistency of student attitude response regarding student perceptions of the quality of instruction they have received in the online format? This question is addressed through summarizing the results of three student attitude surveys—two of which were noted above—which look at 12 dimensions of online instruction in the educational administration program at National University. The first survey gathered information from students in the first offering of the program in 2000, the second in the second offering in 2001, and the third from a group of students completing the program in Alaska in 2001-2002. In addition, information from student assessments of their own learning based upon the responses to nine attitude related issues on the University's student evaluation forms—for all online students and a comparable sampling of on-ground students for the time period in question—is evaluated.

2. Is the performance of students in the online program comparable to that of students in the on-ground program? Currently, the National University educational administration program assessment process utilizes several measures—student surveys, grades, and a comprehensive exit examination. The comprehensive exit examination measures student knowledge in seven content domains directly related to the established performance outcomes for the program which are prescribed by the state. The results of online students who have completed the program are compared to the mean results of students who have completed the program on-ground in 2000-2001. The "n" is quite small and thus the results can only be seen as an indicator of comparability at this time.

3. How do students assess their learning in online instruction in comparison to students who have completed the same courses on-ground. The student course evaluation forms—for both online and on-ground courses—used at National University pose three summative questions: assessment of the instructor, assessment of the quality of instruction, and student assessment of their own learning. These questions are answered using a five-point scale with one being low and five being high. The mean scores on each item for each online course completed in the educational administration program and an equal number of comparable on-ground courses are examined with appropriate analyses being made.

4. How do the instructors of the on-line courses in the educational administration program at National University evaluate the academic performance of their online

students in relationship to the performance of students they have had in comparable on-ground courses. An online instructor survey has been administered to the instructors in the program and the results are reported.

The information gathered in response to these four sub-questions is used to address the overall question of the study. Because the information comes from a variety of data sources, it is not offered as definitive but as illustrative of trends and, it is hoped, sheds light on how well educational administration students in the online program at National University are performing.

Consistency of Student Attitudes Toward Online Education

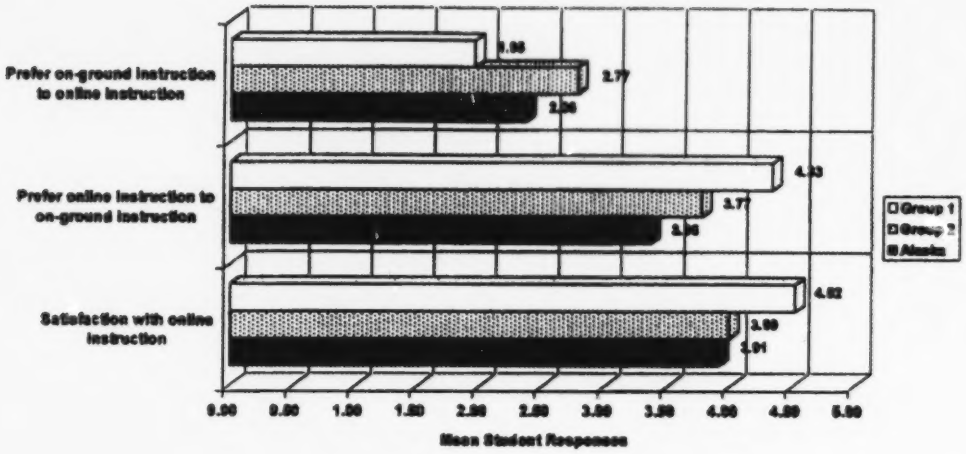
Survey of Online Learners

In 2000, during the first offering of the educational administration sequence, 21 students were surveyed regarding their attitudes toward online learning in relationship to their experiences as on-ground students in other programs. In 2001, 47 new students in the second offering of the program were likewise surveyed and then, later in that year, 11 additional students from a cohort of students enrolled in an Alaska also responded to a separate request for feedback. All of the surveys were completed anonymously and participation was strictly voluntary. The participation rate was higher for the first two groups (100 percent for the first group, nearly 60 percent for the second group), but it exceeded 50 percent for the Alaska group as well.

The 12 dimensions the students were asked to respond to were:

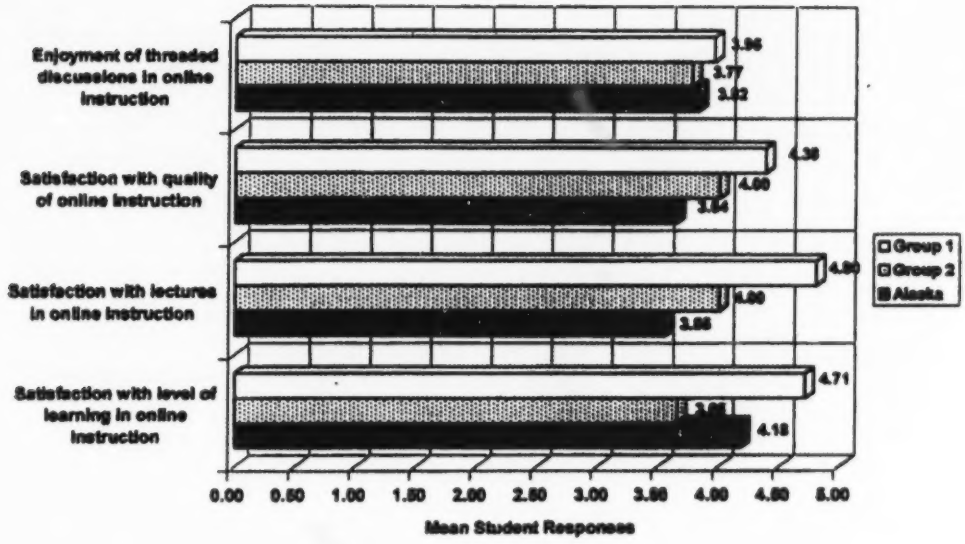
1. Satisfaction with online instruction
2. Preference of online instruction to on-ground instruction
3. Preference of on-ground instruction to online instruction
4. Satisfaction with my level of learning in online courses
5. Satisfaction with lectures in online classes
6. Satisfaction with quality of instruction in online classes
7. Enjoyment of threaded discussions in online classes
8. Equity of rigor in online class to an on-ground class
9. Equity in quality of instruction in online/on-ground classes
10. Ability to get more personal attention in online classes
11. Online classes providing greater flexibility of time
12. Intent to enroll in additional online classes

Summary charts showing, in graph form, the mean response of students from the different groups follow. The charts are presented in clusters of similar content items with a brief discussion following each chart.



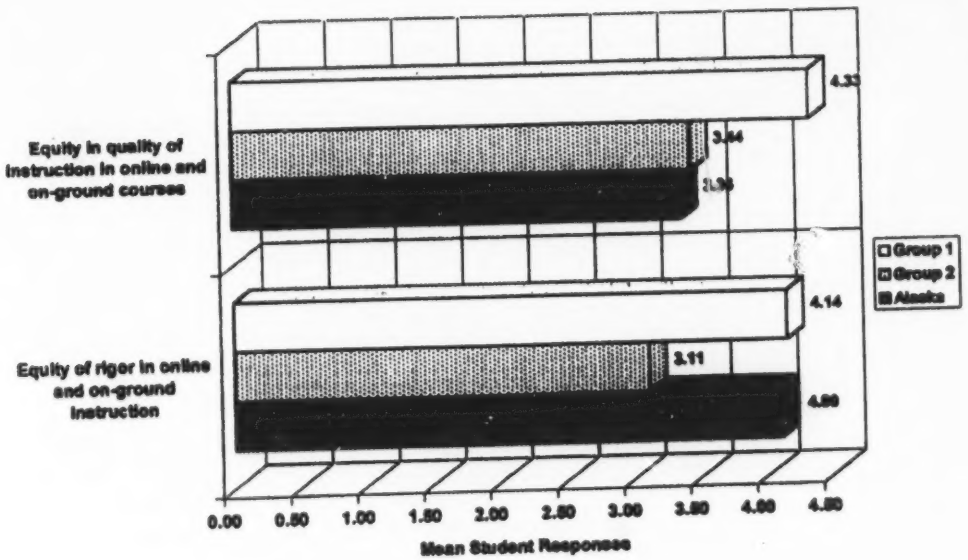
The responses in this set of graphs address the issues in the survey in inverse order. As can be seen, there is general satisfaction with online instruction for all three groups, although the first group shows a much higher degree of approval than do the latter two groups. Why this is so is not easy to determine, but it may be attributable to the fact that the first group was taught by full-time faculty with specific expertise in the content area in the courses. They also wrote the courses. As the program grew, a number of courses in the latter two groups were taught by adjunct faculty who used the materials developed by the full-time faculty but did not actually write the courses themselves. This may or may not have influenced how the students responded to the survey item regarding their satisfaction, but it is worth considering.

When the students were asked about their preference for online vs. on-ground education—and the reverse statement of the issue—it is fairly clear that there is a decided preference for online instruction. This is not surprising since the students have self-selected to take an online program. Again, though, the response is stronger for the first group of students who took the program. Also, it is clear that there may be slightly less enthusiasm among the students in Alaska, although their approval is still better than 3.00 on a 5 point scale. Some students from Alaska may very well find themselves in the situation that, all things considered, they believe themselves to be better suited to be on-ground learners but geography makes that impossible. A close inspection of individual survey responses shows that eight of the Alaskan students rated the program highly (4 or 5), but three did not (rating it 1).



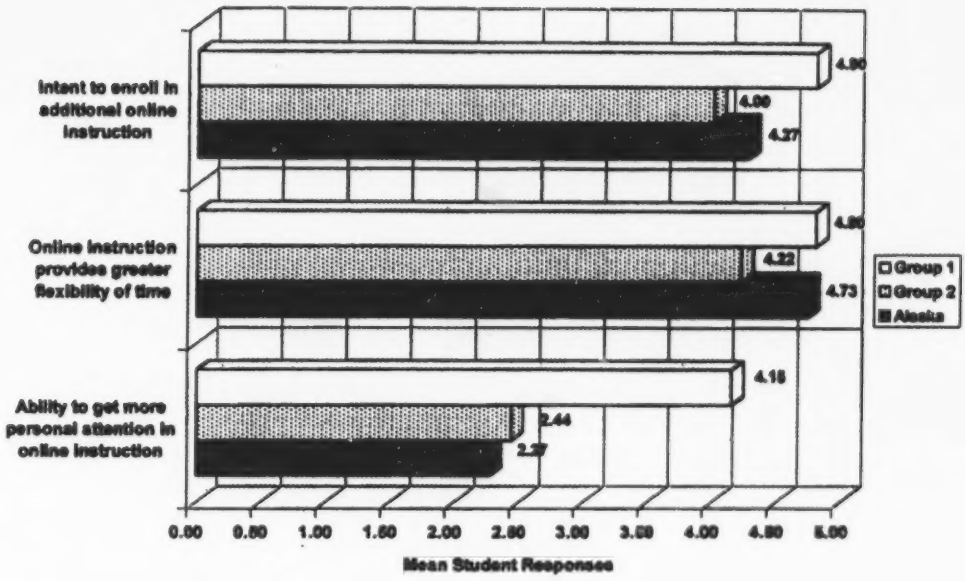
When one looks at the expression of satisfaction with their own learning in online instruction, students from each of the groups rate it relatively high. In this case, the students from Alaska, despite lower numbers in the last graph, rate their satisfaction with their learning at 4.18, not as high as students in group 1 at 4.71 but higher than the students in group 2 at 3.66. Students in group 2 were somewhat more ambivalent about their learning but still positive. Again the observation made above about who was teaching the students may influence the results. The original faculty who worked with group one was relatively the same as the faculty who worked with the Alaska group but that was not the case with group 2.

On the other hand, the results on the other three issues—satisfaction with lectures, and threaded discussions (the primary modes of instruction in the programs)—showed approval for all three groups, with the strongest affirmation coming from group 1 regarding the lectures in the courses.. When they were asked to rate their satisfaction with the quality of online instruction, the ratings followed a more predicable pattern with group I being the highest, group 2 next, and Alaska last. Still, the differences were relatively slight.



When one compares the equity in rigor and quality of the online and on-ground, the results are a bit more diverse. Students in group 1 and students from the Alaska group perceived the rigor to be about the same for online and on-ground instruction while students in group 2 were less ready to make that claim. That could be because of the faculty issues noted above. It could also be related to the time when the survey was conducted. Students in group 1 completed the survey when they had finished at least 50 percent of their work online and the same was true for the Alaska students. The majority of the students in group 2 were near the beginning of their program and may have been unsure regarding rigor. Still, they considered online instruction to be comparable to on-ground instruction in rigor. Students in the other two groups tended to see the online program as actually more rigorous as their higher survey ratings indicated.

There is more ambivalence regarding the equity in quality of instruction, but equity is still perceived to be the case, but not by as strong a rating as seen in response to other questions on the survey. Perhaps the best way to interpret this response is to say the students view the quality to be about the same for online and on-ground instruction, but not with as much enthusiasm as seen in other responses.



In the first offering of the program, students in group 1 perceived that they received a high degree of personal attention from instructors, in fact, received more personal attention than in on-ground classes. This was not the case in group 2 and for the Alaska students. Again, the use of instructors who had not written the courses--and who occasionally were not as skilled in teaching online--might have been a factor for the group 2 students, but that was not the case with the Alaska students. The lower number from the Alaska students was definitely influenced by the generally lower ratings given by three of the eleven respondents, but they may also have expected more in terms of quick response than was possible for all instructors.

Not surprisingly, students in all of the groups were quite enthusiastic about the flexibility of time that online instruction provides them. For many, that was the major reason they pursued their studies in this manner. And most of the students from all three groups, despite their other perceptions, plan to take additional online classes.

On all of these twelve issues it would appear that the students, in general, with some reservations, are pleased with online instruction and find it to be comparable to on-ground instruction in providing them with learning opportunities

The means reported above, however, do not really tell the whole story. Comments provided by the students give context to their statement of attitudes. A representative sample of comments—taken from group two and the Alaska students—follow.

Comments from Group Two Students

"...The program is more professional than I had expected."

"...the professor has been flexible and the classmates super helpful."

"It can be frustrating when, in threaded discussions, a wide rang and number of questions are asked, making the requested complete paragraph response impossible. This requires a great deal of time to answer some of the questions...."

"I find it is not an effective learning situation for me."

"This is the future. Thank you."

"...The workload is comparable to regular classes, but the flexibility is awesome."

"The online class allows me to work a t my own pace and to delve more deeply into the subject matter. It is definitely more challenging, but I am paying to be educated and I want to be challenged."

"...I don't think we get to know our real capabilities."

"...Time limits should not exist. We as professionals should be able to organize our own scheduling...."

Comments from Alaska Students

"I have really enjoyed half of my classes. Those enjoyed get a '5'—the others get a '1.' Input from the prof is the key..._____is rigorous (maybe over the top) but I learned the most from his classes.... "

"The administrative certification program I am currently enrolled in has been very informative and convenient. I feel qualified to pursue my career as a school administrator."

"NU is doing a great job at establishing their online programs. I miss the personal interaction that comes with on-ground courses. If given the choice I would prefer a hybrid approach. Some courses, I believe, would be served better in "on-ground."

"...While the courses have been rigorous and challenging, the lack of dialog and interaction with professors has flattened the impact it might otherwise have...."

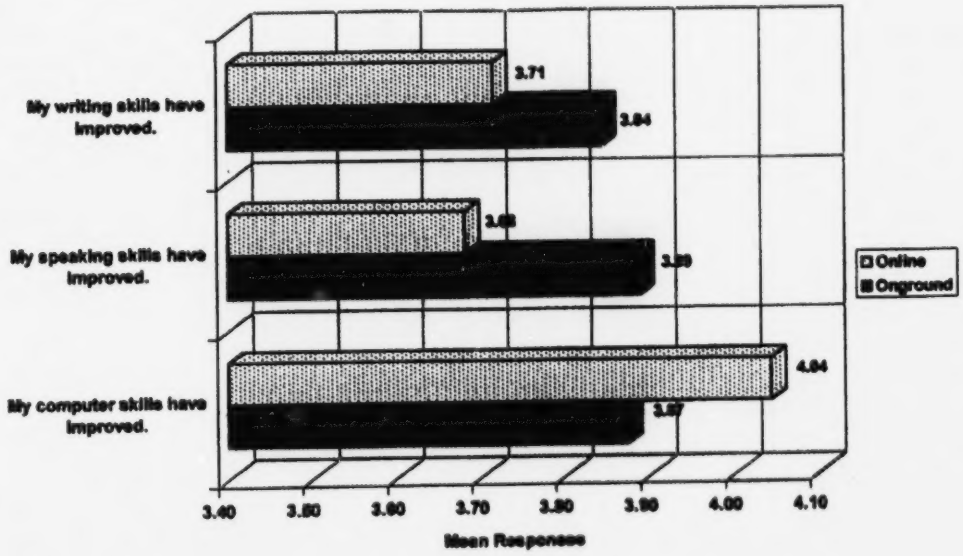
These comments reflect a variety of sentiments and mirror the results of the survey. Again, in general, they are positive, but not without their statement of concerns.

Comparison of Student Attitudes—On-ground and Online

As interesting and helpful as it is to have a profile of student attitudes regarding their experiences solely from the perspective of online education, it is also useful to see how attitudes of online students compare to students taking the same courses at the same time on-ground. National University, as do most universities, invites students to complete course evaluations at the conclusion of each course. While the evaluation forms for both on-ground and online students are quite similar, there are some differences due to the format of instruction. Nine of the items surveyed, however, are identical and address the students' attitudes regarding the quality of their learning. Those questions, which are responded to using a 1—5 point rating scale with 1 being "strongly disagree" and 5 being "strongly agree" are:

1. My writing skills have improved.
2. My speaking skills have improved.
3. My computer skills have improved
4. I gained significant knowledge and skills in this subject.
5. My skills as an independent learner have improved.
6. I learned principles, theories, or generalizations.
7. My ability to do research in this field has improved.
8. I improved my critical thinking, problem-solving, or decision-making
9. I can better apply what I have learned within diverse populations and situations.

Graphs indicating the differences in responses of on-ground and online students follow.



Analysis Title:	My writing skills have improved.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.266	1	0.266	1.892
Within	8.871	63	0.141	
Total	9.138	64		

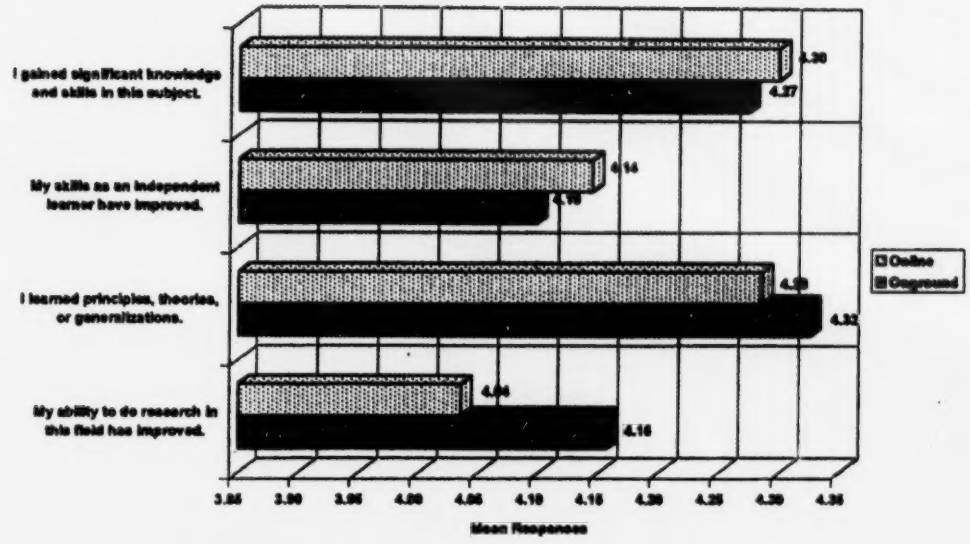
While some differences are noted between on-ground v. online course responses, the differences are not statistically significant. Students do have to write more in online courses, but there is no more formal writing in online classes than in on-ground classes. The absence of feedback on hard (no written comments in the text itself) may account for this slight difference.

Analysis Title:	My speaking skills have improved.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.691	1	0.691	3.984
Within	10.922	63	0.173	
Total	11.613	64		

The differences in on-ground v. online responses barely misses significance at .05 level (4.00). This would be expected since online students are limited to threaded discussion (written) responses and do not really use speaking skills at all.

Analysis Title:	My computer skills have improved.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.473	1	0.473	3.793
Within	7.860	63	0.125	
Total	8.333	64		

The differences in responses from on-ground v. online courses closely approach significance at the .05 level (4.00). Again, this is to be expected in that online students are dependent on their computer skills to complete the course whereas on-ground students may or may not rely on these skills.


I gained significant knowledge and skills in this subject.
My skills as an independent learner have improved.
I learned principles, theories, or generalizations.
My ability to do research in this field has improved.
Online
Onground
Mean Responses

Analysis Title:	I gained significant knowledge and skills in this subject.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.011	1	0.011	0.057
Within	11.914	63	0.189	
Total	11.925	64		

While some differences are noted between on-ground v. online course responses, the differences are small and not statistically significant. This tends to support the belief that there is comparable learning taking place in online and on-ground classes.

Analysis Title:	My skills as an independent learner have improved.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.036	1	0.036	0.261
Within	8.798	63	0.140	
Total	8.835	64		

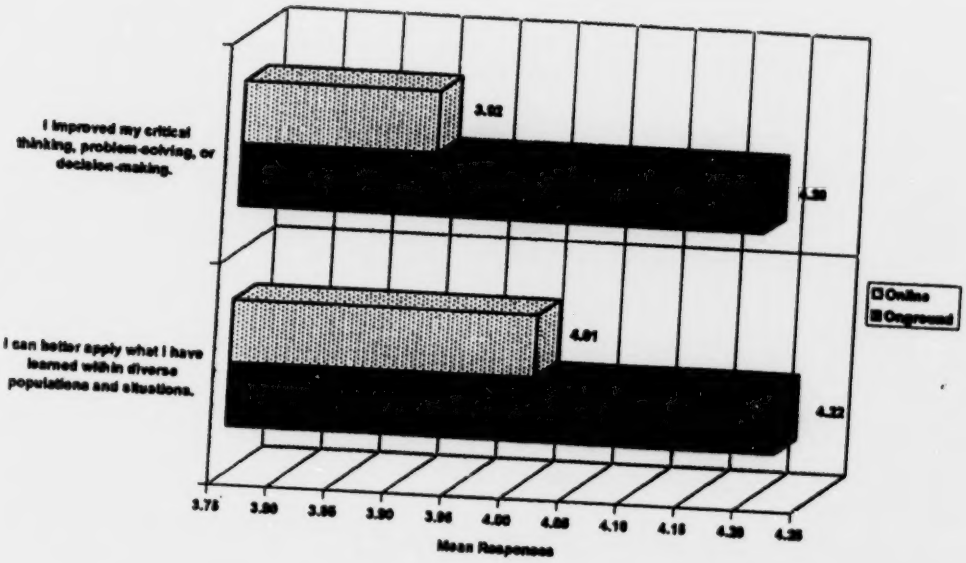
The slight differences noted between on-ground and online course responses are not statistically significant. One would expect, as is the case here, that on-line students would show a slightly higher perception of their independent learning skills which are more essential in an online environment.

Analysis Title:	I learned principles, theories, or generalizations.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.025	1	0.025	0.196
Within	8.228	63	0.131	
Total	8.254	64		

Again, slight differences are noted between on-ground and online course responses; however, they are not statistically significant.

Analysis Title:	My ability to do research in this field has improved.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.238	1	0.238	1.967
Within	7.625	63	0.121	
Total	7.863	64		

The slight differences noted between on-ground and online course responses are not statistically significant.



Analysis Title:	I improved my critical thinking, problem-solving, or decision-making.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	1.294	1	1.294	8.490
Within	9.602	63	0.152	
Total	10.895	64		

The differences noted in on-ground v. online responses are statistically significant at the .005 level (8.49). Why this is so is open to speculation. It may be that on this dimension students miss the interaction found in the on-ground setting where it is easier to challenge each other and to get relatively instantaneous response.

Analysis Title:	I can better apply what I have learned within diverse populations and situations.			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.700	1	0.700	4.109
Within	10.728	63	0.170	
Total	11.428	64		

The differences noted in on-ground v. online responses are statistically significant at the .05 level (4.00). Perhaps the anonymity of the online environment is an impediment to appreciating diversity and does not lend itself to interacting with people from different backgrounds as easily as it might. This is an issue that merits further study.

Overall, the responses to these questions, from online and a comparable sample of on-ground students, except for two instances, show no significant differences in the perceptions of the two groups. It would appear that these sets of data suggest that, for the most part, students rate their learning and acquisition of skills as about the same.

Online Student Performance on Comprehensive Exit Examination

Another indicator of how well students perform academically in the online educational administration program can be found by examining their scores on a comprehensive exit examination required of all students at the conclusion of the program. The examination is scored using a 5 point rubric and addresses, through essay questions, seven areas of content:

1. School Leadership
2. School Law
3. School Personnel Administration
4. Supervision of Instruction
5. School Finance
6. School-Community Relations
7. School Restructuring

Data on on-ground student performance in each of the content areas as well as on the examination as a whole are available for the past several years. Data from online students, since the online program is relatively new, are not as readily available. What is available, however, indicates that student performance is relatively comparable. A

comparison, keeping in mind that the "n" for online students is quite low at this time, is illustrated in the following chart.

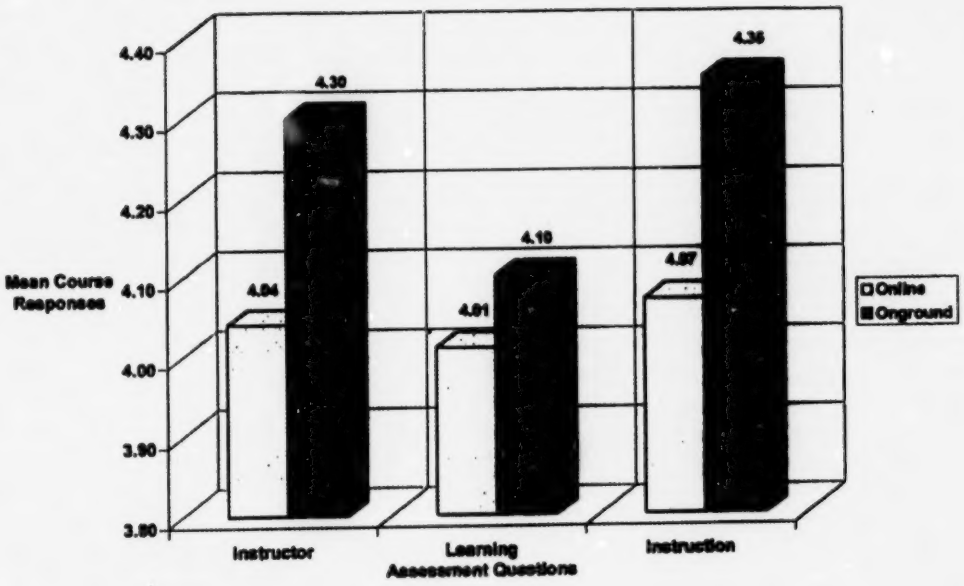
Mean Student Score for Program, Statewide—2000-2001
N=125 M=4.22

Mean Student Score for Program, Online—2000-2001
N=11 M=3.88

Clearly the number of online results is too low to allow for any statistical inferences to be made. Nonetheless, these preliminary results do suggest that on this outcome measure, online students are performing at a level comparable to their fellow students who have completed the program on-ground. As more students complete their preliminary administrative services credential programs online, either totally or in part, more data will be available for substantive analysis.

Student Assessment of Their Learning

At the end of each student evaluation of a course, students are asked to rate—on a 5 point scale—their instructor, their assessment of their own learning, and the quality of instruction they have just received. A "1" represents a low evaluation and a"5" represents a high evaluation. Ratings for each of these three dimensions, for each of the online educational administration courses offered since the beginning of the online program in February, 2000, through the courses offered in January, 2002, are compared to ratings given to identical on-ground courses offered at the same time. These comparisons with an examination of differences are presented in the following charts.



Analysis Title:	Assessment of Instructor			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	1.100	1	1.100	2.943
Within	23.535	63	0.374	
Total	24.635	64		

While some differences are noted between the responses of online and on-ground students, they are not statistically significant (P.05 = 4.00). It is not surprising, however, that the rating of the instructor would be somewhat higher on-ground since there is the factor of personal presence to consider. Personality and the lack of anonymity might very well motivate students to be a bit more generous in their response to this measure.

Analysis Title:	Self Assessment of Learning			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	0.108	1	0.108	0.948
Within	7.203	63	0.114	
Total	7.312	64		

Online and on-ground students differed in their self assessment of learning; however, the differences again were not statistically significant. Again, the higher rating is given by the on-ground students and the lack of "real time" interaction might account for this difference in perception. Still. It must be remembered that the ratings are relatively similar.

Analysis Title:	Assessment of Instruction			
Source of Variation	Sum of Squares	df	Mean Square	F
Between	1.258	1	1.258	5.063
Within	15.648	63	0.248	
Total	16.905	64		

The differences in online and on-ground students' assessment of course instruction was found to be statistically significant at the .05 level (4.00). This dimension might be the most critical in this portion of the study. While, in general, students in online and on-ground classes rate their learning and class experiences quite similarly, online instruction, at this time, is somewhat limited in pedagogical strategies. It is much harder but not impossible, for example, to do group work and the use of videos and role-playing simulations presents quite a challenge in the online environment. Advances in technology should rectify this situation this coming year and the addition of a greater variety of instructional strategies might very well allow for the perceptions of both on-ground and online students to converge.

Overall, there appears to be a high degree of comparability in these ratings between on-ground and online students. Still, it must be noted that online students tended to rate their experiences on these dimensions slightly lower than did the on-ground students. One would anticipate that as technology improves and as ways are found to overcome some of the anonymity issues in the online environment, the ratings would be virtually the same.

Also, it is appropriate to observe that not all students who are taking courses online are convinced that online instruction is really the best way to learn. As one student commented, "I find it (online instruction) is not an effective learning situation for me."

Instructor Perception of Student Learning

Numbers alone and the perceptions of students alone do not give one a clear view of student performance in an online learning environment. The instructors of the online courses, all of whom have experience in teaching courses on-ground, have valuable insights regarding student learning and the quality of online instruction. To gain insight into the perceptions of the online educational administration program instructors, an instructor survey was completed in January, 2002. The survey addressed nine issues:

1. Number of online courses taught at National University
2. Number of online courses taught at other universities
3. Number of on-ground courses taught at National University
4. Equity of rigor of online and on-ground courses at National University
5. Equity of rigor of online courses taught at National University to online courses taught at other universities
6. Comparability of student performance in online courses to on-ground courses at National University
7. Level of student performance in online courses in relationship to participation in on-ground courses at National University
8. Online student mastery of administrative competencies in relationship to on-ground student mastery of administrative competencies at National University
9. General Comments

While the response rate is low and the actual "n" is low—reflecting the fact that a number of instructors have taught more than one course in the program—, the insights provided by the instructors are helpful. Their responses follow.

Summary of Responses

1. Number of online courses taught at National University

   N= 9 M=3.66
   (The range was 1—8.)

2. Number of online courses taught at other universities

   N=9 M=NA
   (Only one respondent has taught online at another university.)

3. Number of on-ground classes taught at National University

   N=9 M=37.3
   (All have taught 1-5 classes; several have taught more than 80.)

4. Equity of rigor in online courses and on-ground courses at National University

   Online: (N=9) More Rigorous—4; About the Same—3; Less Rigorous—2.
   (One instructor who rated the online course more rigorous said it was a "real killer." One who said it was less rigorous expressed concern that there were not enough options for responding to papers, etc.")

5. Equity of rigor in online courses taught at National University to online courses taught at other universities

   Online: The one instructor who had taught online courses at another university said that the courses at National University were as rigorous.

6. Comparability of student performance in online courses to on-ground courses at National University

   Online: (N=9) Higher Performance—3; Comparable Performance—6; Lower—0.

7. Level of student participation in online courses in relationship to participation in on-ground classes at National University

   Online: (N=9) Higher Participation—6; Same Participation—3; Lower—0.

8. Online mastery of administrative competencies in relationship to on-ground student mastery of administrative competencies at National University

   Online: (N=9) Higher Mastery—0; About the Same—7; Lower—2.
   (The two instructors who rated student mastery of competencies as lower expressed concern that there was a need for more practical, in-basket types of activities as well as a greater need to get to know the students personally before making a judgment on this issue.)

9. Comments

   The comments of the instructors follow:

   "...very well organized. If anything, extremely heavy workload for students."

"The program is strong, but there is always room for improvement. Some students occasionally mimic the response of their classmates in their threaded discussion answers."

"Academic quality is high online. Students are mature, experienced educators online that typically want to gain skills to improve their school site performance."

"I think it is a very viable method of instruction—as instructors learn more about how to best structure the classes—and the university does a good job of reviewing the syllabi that have been written and keeping them current—I think the quality of instruction will improve. I do strongly feel that no student should be able to earn the entire administrative degree without some on-ground component—to ensure that we are not dealing with a "virtual student", but with a student who does indeed have the competencies necessary for school administration."

"I think it is great--as we become more able in design, we can really enrich the online classes far beyond in-class instruction."

"I look forward to a continued growth and development in the online classes and that is exciting."

"Because students work at their own pace there is little interaction among students. They accomplish the assignments but don't discuss much among themselves."

"The students found the course to be a quite a challenge. They commented on how much work was involved in this course. They enjoy their online communication, especially since many of them are far away from us in San Diego. They also enjoyed interacting with educators from all levels of education including preschool, primary, secondary, adult, and the Department of Corrections. What they did find out was that good quality supervision models can be applied at all levels of education."

"After spending quality time communicating with the students and requiring adherence to APA format and quality written work, I felt that the students were generally of high caliber. There were some exceptions as in every class, but the responses to threaded discussions were very thorough. It is my belief that the key to academic success is the degree to which the instructor requires timely and professional contributions."

The above comments as well as the other responses to the instructor, with a few caveats, strongly support the online educational administration program being offered at National University. There is strong consensus that the online courses are quite comparable in quality and rigor to on-ground courses and that students are receiving the instruction they need to become successful school administrators. What remains a challenge is the "personalization" of online classes, particularly getting to know the students and

providing them with a greater array of practical, hand-on activities that will enrich their on-the-job problem solving skills. This is an issue faculty must address as they continue to work in the online environment.

General Conclusions

The central question of this inquiry remains, *"How do we know what the online students have learned and is it comparable to what students have learned in on-ground classes?"* This is not an easy question to answer, but the information gleaned in reflecting on the data examined in response to the four sub-questions discussed above provides us with us some tentative conclusions. When one examines student attitudes toward online instruction in educational administration at National University in conjunction with their evaluation of instructors, the quality of their courses, their own learning, their performance on comprehensive exit examinations, and the perceptions of their instructors, the following findings emerge.

1. There is a high degree of comparability in the quality and rigor of the online and on-ground educational administration courses.

2. Online students are generally satisfied with the quality of instruction in their program.

3. Students, generally, academically perform comparably in online and on-ground educational administration courses. Both groups meet established standards of mastery.

4. Online instructors are quite positive about the online educational administration program.

5. Students enrolled in online courses, even if they have concerns, like the the flexibility it gives them and plan to take more courses in this form.

Perhaps it is too soon to argue whether or not the central question of this inquiry has been answered satisfactorily. Currently, there are some very slight differences in stated student perceptions that some observers might see as possibly favoring on-ground instruction. These differences, except for a very few instances, as has been noted, are not statistically significant. There are many variables that need to be taken into account when analyzing these data, variables that may very well have a significant influence on these findings. A beginning, however, has been made and it strongly suggests that online instruc[illegible] in educational administration will be and can be a significant aspect of administrator preparation in the future.

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